

## Contributors to This Issue

IRWIN DORROS, S.B., S.M., 1956, Massachusetts Institute of Technology; Eng.Sc.D., 1962, Columbia University; Bell Telephone Laboratories, 1956—. Mr. Dorros first joined Bell Laboratories as a MIT-Co-op student with assignments involving military communications, early data communications, and Electronic Switching Systems (ESS). He stayed on in ESS development where his work covered characterization of transistors for small functional circuits, circuit design for remote line concentrators, initial design of ferreed switches, and program and system "debugging" for the Morris ESS Trial. As Supervisor, Data Communications Development, Mr. Dorros was involved with a feasibility study of a narrow band system for multiple data channels over a single voice channel, and development for manufacture of the B1 Data Trunking System for deriving six narrow hand data channels from a single voice channel. As Head, PCM Repeater Department, he was responsible for the development of the 224 Mb/s experimental repeatered line, design of the T2 repeatered line at 6.3 Mb/s, and equipment design for digital lines and terminals. He is currently Director of the Transmission Engineering Planning Center.

A. GERSHO, B.S., 1960, M.I.T.; M.S., 1961, Ph.D., 1963, Cornell University; Bell Telephone Laboratories, 1963—. Mr. Gersho is now Assistant Professor of Electrical Engineering at the City College of the City University of New York. He has been engaged in research in automatic and adaptive equalization for digital communications, synchronization of remote clocks, and synthesis of distributed networks.

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1962, University of California (Berkeley); Bell Telephone Laboratories, 1962—. Mr. Graham has been engaged in research into a variety of problems arising in coding theory, graph theory and combinatorial geometry. Member, American Mathematical Society, Mathematical Association of America, Sigma Xi.

GEORGE K. HELDER, B.S. (Business), 1952, B.S.E.E., 1958, University of Colorado; M.E.E., 1960, New York University; Bell Telephone Laboratories, 1958—. Mr. Helder was first engaged in exchange area transmission, including methods of subscriber loop testing. More recently he has been concerned with the problems of echo control on telephone connections and in studies to determine the effects of transmission over long delay circuits. At present he supervises a group dealing with the transmission aspects of the local telephone network and echo control in the toll network. Member, Tau Beta Pi, Eta Kappa Nu, IEEE.

T. T. KADOTA, B.S., 1953, Yokohama National University (Japan); M.S., 1956, Ph.D., 1960, University of California (Berkeley); Bell Telephone Laboratories, 1960—. Mr. Kadota has been engaged in the study of noise theory with application to optimum detection theory. Member, Sigma Xi, SIAM.

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JESSIE MACWILLIAMS (Mrs. F.J.), B.A., 1939, M.A., 1941 Cambridge, (England), Ph.D., 1962, Harvard; Bell Telephone Laboratories, 1956—. Mrs. MacWilliams has worked in transmission networks development, data communications engineering, and is now in the mathematics and statistics research center. Member, Mathematical Association of American, American Mathematical Society.

RICHARD A. McDONALD, B.E. (EE), 1956, M.E. (EE), 1957 and D.E. (EE), 1961, Yale University; 1961–64, Assistant Professor of Engineering and Applied Science, Yale University; Bell Telephone Lab-

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JACK M. SIPRESS, B.E.E., M.E.E., and D.E.E., Polytechnic Institute of Brooklyn, 1956, 1957, and 1961, respectively; Bell Telephone Laboratories, 1958—. Previously employed by the Sperry Gyroscope Corp. and the Microwave Research Institute of the Polytechnic Institute of Brooklyn. At Bell Telephone Laboratories he was concerned with the design of active networks. Recently, he has supervised a group responsible for the systems design of digital transmission lines containing waveguide, coaxial cable, and paired cable media.

F. D. WALDHAUER, B.E.E., 1948, Cornell University, M.S.E.E., 1960, Columbia University; Radio Corporation of America, 1948–1955; Bell Telephone Laboratories, 1956—. At RCA, Mr. Waldhauer was engaged in transistor circuit development and in the prosecution of patent applications in the United States Patent Office. At Bell Telephone Laboratories he has been engaged in the exploratory development of the T1 PCM short haul carrier system and in broadband solid state analog-to-digital conversion for experimental 224 Mb/s PCM terminals, including fundamental development of feedback amplifiers. More recently, he has been in charge of a group responsible for the development of an experimental 224 Mb/s digital repeatered line.

E. J. WELDON, JR., B.S.E.E., 1958, Manhattan College; M.S.E.E., 1960 and Ph.D., 1963, University of Florida; Bell Telephone Laboratories, 1963—. Mr. Weldon has been concerned with the construction and analysis of error-correcting codes and the equipment necessary to implement them in data transmission systems. He is presently on a leave of absence at the University of Hawaii. Member, IEEE, Eta Kappa Nu.

